URS

July 12, 2013

Mr. Bill Johnson
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Re: Data Validation Report
Groundwater Migration Control System
Surface Water Sampling Event – March 2013
Sauget, Illinois
URS Project No. 21562759

Dear Bill:

URS Corporation (URS) is pleased to present this Data Validation Report for surface water sampling, conducted as part of the Groundwater Migration Control System Performance Verification Sampling Program. This report provides:

- Brief summary of field activities
- Figure showing the sampling locations
- Validated sample summary list
- Analytical detection tables
- Data validation worksheets
- Analytical results tables

SCOPE OF WORK

Surface water sampling field activities were conducted on March 28, 2013, in accordance with applicable portions of the Surface Water and Sediment Performance Verification Sampling Plan dated January 31, 2003. During the sampling event, surface water samples were collected from a total of five locations immediately adjacent to Site R, at stations PDA-2, -3, -4, -5 and -9 as defined in the Menzie Curra sampling effort in 2000. Sediment samples were not collected, per the March 12, 2013 email correspondence from Solutia.

Surface Water Sampling

Surface water samples were collected at the sediment-water interface (within 1 foot of the bottom) at each sampling location. Because of the sample volumes required and sampling limitations due to swift currents, a peristaltic pump system was utilized, which included use of new sample tubing at each sample location.

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Surface water samples, including an analytical duplicate and a matrix spike/matrix spike duplicate (MS/MSD) sample, were submitted to the laboratory and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides and metals. One trip blank was submitted and analyzed for VOCs.

Samples for VOC, SVOC, and total metals analysis were collected in laboratory supplied pre-preserved sample containers and samples for pesticides and herbicides analysis were collected in unpreserved sample containers. Samples for dissolved metals analysis were laboratory filtered and preserved. Field measurements were also recorded for temperature, pH, dissolved oxygen, conductivity, and turbidity.

Surface water samples were appropriately labeled with the sample location, requested analysis, preservative, date and time sampled and sampler's initials. Samples were maintained at 4°C ± 2°C with ice and shipped under chain of custody (COC) to TestAmerica Laboratories Inc. in Savannah, Georgia.

Should you have any questions or comments regarding this Data Validation Report, please do not hesitate to contact me at 314.429.0100

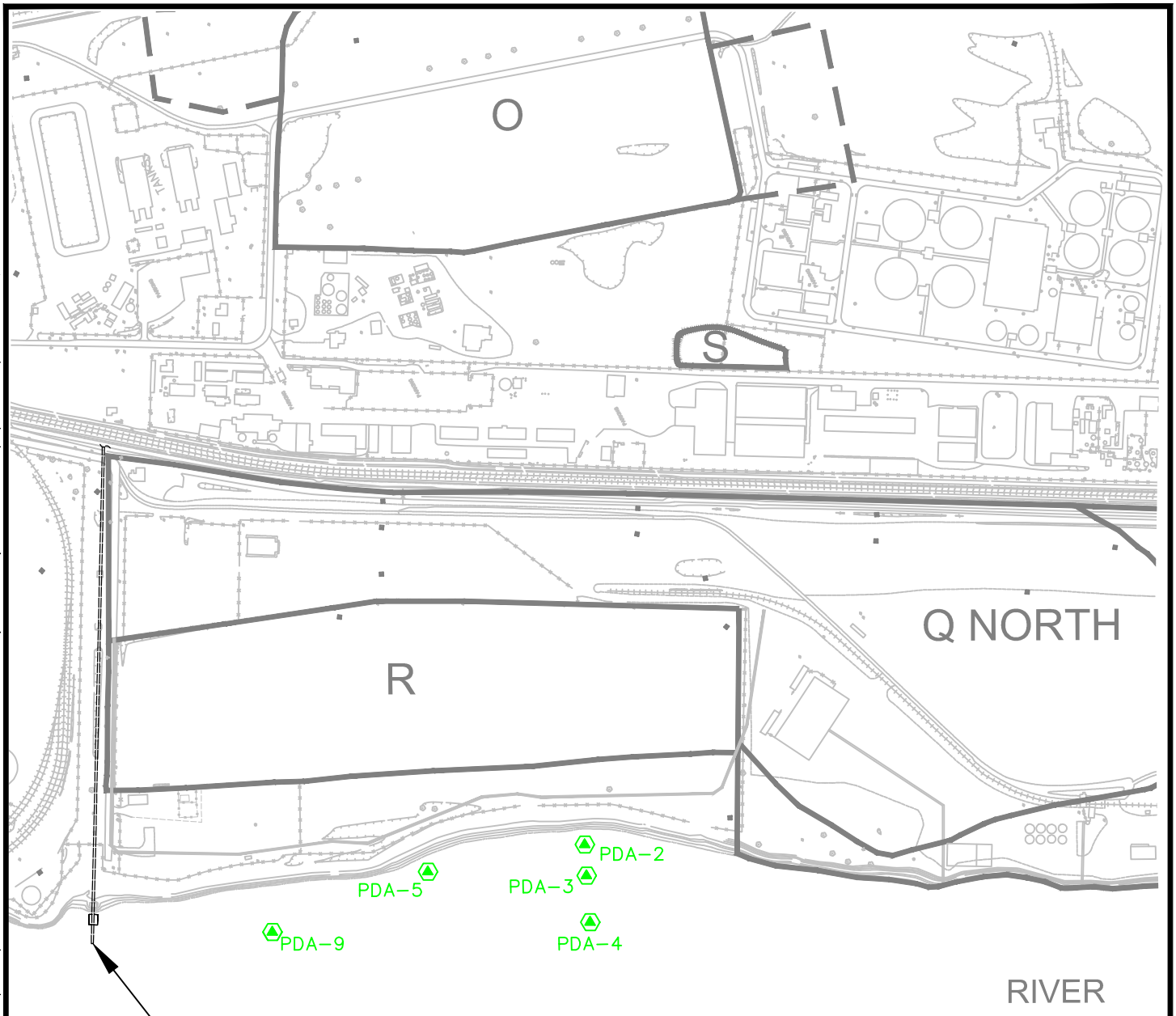
Respectfully,

Robert Billman
Senior Project Manager

Enclosures

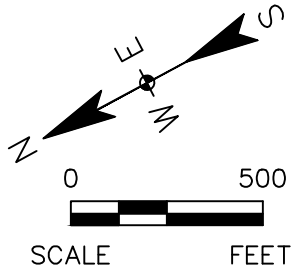
URS

Figure



LEGEND

SURFACE WATER SAMPLE LOCATION



SAUGET AREA 2 GROUNDWATER MIGRATION CONTROL SYSTEM SAUGET, ILLINOIS		PROJECT NO. 21562759
URS		
DRN. BY:djd July 2013 DSGN. BY:nm CHKD. BY:nm	**Surface Water** Sampling Locations March 2013	FIG. NO. 1

File: P:\ENVIRONMENTAL\SAUGET AREA 2\21562759 - SITE R RIVER SAMPLING 2012+2013\SPRING 2013 EVENT\REPORT\FIGURES\FIGURE 1 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS (FEBRAURY 2012).DWG Last edited: 07/10/13 @ 4:04 p.m. WC-ST.LOUIS, MO

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Validated Sample Summary List

Sauget Area 2
Groundwater Migration Control System
Validated Sample Summary List - SDG SAS070
March 2013

SDG	Sample ID	Sample Date	VOCs	SVOCs	Pesticides	Herbicides	Metals
SAS070	SW-SA2-GMCS-4	3/28/2013	X	X	X	X	X
SAS070	SW-SA2-GMCS-9	3/28/2013	X	X	X	X	X

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Analytical Detection Tables

See last page of table for notes

Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Detections
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-2								
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Sulfur dioxide	3500	ug/L	T J N	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Unknown Aldol Condensate	22	ug/L	T A J	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Aluminum	0.48	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Aluminum (Dissolved)	0.41	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Barium	0.074	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Barium (Dissolved)	0.057	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Beryllium	0.00023	mg/L	J	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Calcium (Dissolved)	46	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Iron	1.1	mg/L	B	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Iron (Dissolved)	0.43	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Manganese	0.14	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Manganese (Dissolved)	0.021	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Potassium	4.6	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Potassium (Dissolved)	4.2	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Sodium (Dissolved)	33	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Zinc	0.012	mg/L	J	
PDA-3								
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Sulfur dioxide	1600	ug/L	T J N	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Unknown	4	ug/L	T J	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Aluminum	0.45	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Aluminum (Dissolved)	0.37	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Barium	0.071	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Barium (Dissolved)	0.057	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Calcium	49	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Calcium (Dissolved)	46	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Iron	0.88	mg/L	B	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Iron (Dissolved)	0.36	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Magnesium	18	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Manganese	0.13	mg/L		

See last page of table for notes

Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Detections
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Manganese (Dissolved)	0.016	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Potassium (Dissolved)	4.3	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Sodium	34	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Sodium (Dissolved)	34	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Zinc	0.011	mg/L	J	
PDA-4								
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Sulfur dioxide	2500	ug/L	T J N	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Unknown Aldol Condensate	4.1	ug/L	T A J	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Aluminum	0.43	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Aluminum (Dissolved)	0.27	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Barium	0.072	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Barium (Dissolved)	0.06	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Calcium	49	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Calcium (Dissolved)	49	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Iron	0.88	mg/L	B	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Iron (Dissolved)	0.27	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Manganese	0.14	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Manganese (Dissolved)	0.013	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Potassium	4.5	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Zinc	0.011	mg/L	J	
PDA-5								
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Sulfur dioxide	2300	ug/L	T J N	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Unknown Aldol Condensate	30	ug/L	T A J	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Aluminum	0.46	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Aluminum (Dissolved)	0.24	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Barium	0.073	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Barium (Dissolved)	0.059	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Calcium (Dissolved)	49	mg/L		

See last page of table for notes

Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Detections
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Iron	0.99	mg/L	B	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Iron (Dissolved)	0.24	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Manganese	0.15	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Manganese (Dissolved)	0.011	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Sodium	36	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Zinc	0.011	mg/L	J	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Sulfur dioxide	980	ug/L	T J N	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Unknown Aldol Condensate	5.2	ug/L	T A J	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Aluminum	0.46	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Aluminum (Dissolved)	0.36	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Barium	0.073	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Barium (Dissolved)	0.06	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Calcium (Dissolved)	48	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Iron	0.94	mg/L	B	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Iron (Dissolved)	0.39	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Manganese	0.15	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Manganese (Dissolved)	0.018	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Potassium	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Zinc	0.0093	mg/L	J	
PDA-9								
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Unknown Aldol Condensate	4.4	ug/L	T A J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Aluminum	0.77	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Aluminum (Dissolved)	0.26	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Barium	0.082	mg/L		

Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Detections
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Barium (Dissolved)	0.059	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Calcium	48	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Calcium (Dissolved)	47	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Cobalt	0.0017	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Iron	2.3	mg/L	B	J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Iron (Dissolved)	0.26	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Lead	0.0043	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Magnesium	18	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Manganese	0.16	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Manganese (Dissolved)	0.011	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Nickel	0.004	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Potassium (Dissolved)	4.4	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Sodium	32	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Sodium (Dissolved)	32	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Vanadium	0.003	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Zinc	0.013	mg/L	J	

Notes:

Lab Qualifier	**Definition**
A	The tentatively identified compound is a suspected aldol-condensation product
B	Compound was found in the blank and sample
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
N	Flag indicates the presumptive evidence of a compound
T	Result is a tentatively identified compound (TIC) and an estimated value

URS Qualifier	**Definition**
J	Analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

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Data Validation Worksheets

1.0 FULL VALIDATION OF VOC DATA - SDG SAS070

This section describes the full validation for two surface water samples which were prepared by USEPA SW-846 Method 5030B and analyzed for volatile organic compounds (VOCs) by USEPA SW-846 Method 8260B. Samples were analyzed by TestAmerica Laboratories, Inc. of Savanna, Georgia, and submitted as part of sample delivery group (SDG) SAS070. Samples included as part of this validation are listed below:

Sample Identification
SW-SA2-GMCS-4
SW-SA2-GMCS-9

QA/QC criteria were identified in the Groundwater Migration Control System, Sauget Area 2 Superfund Site, Field Sampling Plan, Vol. 3A, Jan. 31, 2003 and USEPA SW-846 Method 8260B. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) where applicable to SW-846 Method 8260B.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards and retention times
- Laboratory control spike (LCS) samples
- Target compound identification and quantitation
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated VOC MS/MSD recoveries were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated three of eight coolers were received by the laboratory at temperatures of 0.2ºC, 0.6ºC , and 1.4ºC which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chains-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The validated samples were received at approximately $4^{o}C \pm 2^{o}C$, preserved with sodium bisulfate and hydrochloric acid and were analyzed within the 14 day holding time criteria. No qualification of data was required due to sample preservation or holding time criteria.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8260B.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, and no qualification of data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. Samples as part of SDG SAS070 were analyzed using instrument MSO5973. The ICAL for instrument MSO5973 was established on 3/29/2013 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8260B. An average response factor (RF) was determined for each target analyte, the RFs were reviewed and verified greater than 0.10 for chloromethane, 1,1-dichloroethane and bromoform, 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane and greater than 0.05 for all other target analytes.

An initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were less than 20% for target compounds with the exception of bromomethane (-21.1%).

Analytical data that required qualification based on ICV data are included in the table below.

Sample ID	Analyte	Qualification
SW-SA2-GMCS-4	Bromomethane	**UJ**
SW-SA2-GMCS-9	Bromomethane	**UJ**

Review of the initial calibration summary forms indicated %RSDs were $\leq$30% for calibration check compounds (CCCs) [1,1-dichloroethene, toluene, chloroform, ethylbenzene, 1,2-dichloropropane, and vinyl chloride], and $\leq$15% for non-CCCs with some exceptions. The initial calibration for compounds with a %RSD value outside evaluation criteria was determined using least square linear regression: correlation coefficients (r) were greater than 0.990. Recalculation of the %RSDs and RFs for a compound associated with each internal standard was preformed from the raw data and no errors in calculations were noted; therefore, no qualification of data was required.

1.6 Calibration verification

Review of sample chromatograms indicated the continuing calibration verifications (CCVs) were performed at the required frequency of every 12 hours. Review of continuing calibration summary form indicated that RFs met the evaluation criteria of greater than 0.10 (chloromethane, 1,1-dichloroethane and bromoform), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other analytes. In addition, percent difference/drift (%Ds) met the evaluation criteria of ≤ 30% for all calibration check compounds (CCCs) and ≤20% for all other target analytes with exceptions summarized in the following table.

CCV (Date/Time)	Analyte	%D
4/10/2013 09:48	Bromomethane	**-53.1**
4/10/2013 09:48	Chloroethane	**-35.3**
4/10/2013 09:48	2-Butanone	**34.2**
4/10/2013 09:48	Methyl isobutyl ketone	**30.6**
4/9/2013 08:22	Bromomethane	**36.4**
4/9/2013 08:22	Acetone	**47.0**
4/9/2013 08:22	Methyl ethyl ketone	**38.9**
4/9/2013 08:22	Methyl isobutyl ketone	**23.1**

Analytical data that required qualification based on CCV data are included in the table below. Bromomethane was previously qualified due to ICV %D; therefore, no further qualification was required. Non-detect analytes in samples associated with marginal increases in %D, indicating a positive bias, were not qualified.

Sample ID	Analyte	Qualification
SW-SA2-GMCS-4	Chloroethane	**UJ**
SW-SA2-GMCS-9	Chloroethane	**UJ**

Recalculations of the RFs and %Ds for two target compounds were completed for each CV, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of the blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory or field activities. Blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8260B. All target compounds were reported as non-detect. No qualification of data was required.

The review of chromatograms indicates all peaks present were accounted or the concentrations reported were below the method detection limit. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. VOC surrogates were within evaluation criteria.

Approximately 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted and no qualification of data was required.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Sample SW-SA2-GMCS-9 was spiked and analyzed for VOCs. MS/MSD recoveries were within evaluation with the exceptions summarized in the following table.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD RPD Criteria
SW-SA2-GMCS-9	VOCs	Methyl ethyl ketone	**144**/**144**	0	55-142/30
SW-SA2-GMCS-9	VOCs	Bromomethane	126/**190**	40	10-171/50

USEPA National Functional Guidelines for Superfund Organic Methods Data indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of data was required.

Approximately 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.10 Internal Standards and Retention Times

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50% to +100%, and the IS retention times must be within 30 seconds of the IS continuing calibration retention time. IS areas and retention times for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors were noted.

1.11 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within acceptance criteria. No qualification of data was required.

Approximately 10% of the spiking compound recoveries for the LCS's were recalculated using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantitation

For the validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified properly and verified against the retention time of the associated standard curve or CV. All target analytes in the validated samples were non-detect; therefore, the retention times of the surrogates were verified and matched retention times of associated standards. Approximately 10% of the spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the validated samples.

For the validation of compound quantitation, target analytes were non-detect; therefore, selected spiking compounds were recalculated from the raw data, and no calculation errors were noted. No qualification of the data was required.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS and surrogate data were achieved for this SDG.

1.0 FULL VALIDATION OF SVOC DATA – SDG SAS070

This section describes the full validation for two surface water samples which were prepared by USEPA SW-846 Methods 3520C and analyzed for semi-volatile organic compounds (SVOCs) by USEPA SW-846 Method 8270C. Samples were analyzed by TestAmerica Laboratories, Inc. of Savanna, Georgia, and submitted as part of sample delivery group (SDG) SAS070. Samples included as part of this validation are listed below:

Sample Identification
SW-SA2-GMCS-4
SW-SA2-GMCS-9

QA/QC criteria were identified in the Groundwater Migration Control System, Sauget Area 2 Superfund Site, Field Sampling Plan, Vol. 3A, Jan. 31, 2003 and USEPA SW-846 Method 8270C. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) where applicable to SW-846 Method 8270C.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- Instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standard areas and retention times
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated one SVOC LCS recovery was outside evaluation criteria. SVOC MS/MSD recoveries were outside evaluation criteria in SW-SA2-GMCS-9. This issue is addressed further in the appropriate section below.

The cooler receipt form indicated three of eight coolers were received by the laboratory at temperatures of 0.2ºC, 0.6ºC , and 1.4ºC which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}C$. All samples were extracted within 7 days of collection and analyzed within 40 days of sample extraction. No qualification of data was required due to sample preservation or holding time criteria.

1.4 Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against the laboratory tuning criteria established in Method 8270C.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, therefore; no qualification of the data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. Samples as part of SDG SAS070 were analyzed using instrument MSG5973. The ICAL for instrument MSG5973 was established on 4/4/2013, prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8270C. An average response factor (RF) was determined for each target analyte, and the RFs were reviewed and verified as greater than 0.05 for all target analytes. An initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were reviewed. Review of the initial calibration summary forms indicated calibration check compounds (CCCs) had percent relative standard deviations (%RSDs) $\leq$ 30%. All other target analytes had %RSDs less than 15%. Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.6 Calibration Verification

Review of sample chromatograms indicated the calibration verifications (CVs) were performed at the required frequency of every 12 hours. Review of continuing calibration summary forms indicated RFs met the evaluation criteria of greater than 0.05 for all target analytes. In addition, percent differences (%Ds) met the evaluation criteria of less than or equal to 20% for CCCs and target analytes that were quantitated using linear calibration (response factor).

Recalculations of the RFs and %Ds for one compound per internal standard were performed, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. USEPA SW-846 Method 8270C requires that method blanks are run with every analytical batch. No SVOC compounds were detected in the method blank.

Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per-sample basis. Surrogate recoveries were within evaluation criteria.

Approximately 10% of the surrogate recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Sample SW-SA2-GMCS-9 was spiked and analyzed for SVOCs. MS/MSD recoveries were within evaluation criteria with the exceptions summarized in the table below.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD RPD Criteria
SW-SA2-GMCS-9	SVOCs	2-Methylphenol	**39**/**41**	6	55-130/6
SW-SA2-GMCS-9	SVOCs	3,3'-Dichlorobenzidine	**0**/**0**	NC	27-130/50
SW-SA2-GMCS-9	SVOCs	Anthracene	64/**59**	7	61-130/50
SW-SA2-GMCS-9	SVOCs	Bis(2-ethylhexyl)phthalate	70/**58**	19	62-130/50
SW-SA2-GMCS-9	SVOCs	Di-n-octyl phthalate	76/**63**	18	64-130/18
SW-SA2-GMCS-9	SVOCs	Benzo[a]pyrene	68/**54**	22	61-130/50

USEPA National Functional Guidelines for Superfund Organic Methods Data indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of data was required.

Approximately 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.10 Internal Standard Areas and Retention Times

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. Following Method 8270C, the IS areas for the samples and CVs must be within –50% to +100% and retention times must be within 30 seconds of the IS area and retention time of the midpoint of the ICAL.

The IS areas for the CVs and the validated samples in this SDG were within evaluation criteria. No qualifications to the data based on IS areas or retention times were required.

1.11 Laboratory Control Sample (LCS)

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria with the exception of 2-methylphenol (**41%**), outside evaluation criteria (55-130) in LCS 680-271338/8-A.

Analytical data that required qualification based on LCS data are included in the following table.

Sample ID	Parameter	Analyte	Qualification
SW-SA2-GMCS-4	SVOCs	2-Methylphenol	**UJ**
SW-SA2-GMCS-9	SVOCs	2-Methylphenol	**UJ**

Approximately 10% of the spiking compound recoveries for the LCS were recalculated from the raw data and verified using the LCS summary forms, and no calculation or transcription errors were noted. No qualification of data was required.

1.12 Target Compound Identification and Quantitation

For the validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified properly and verified against the retention time of the associated standard curve or CV. All target analytes in the validated samples were non-detect; therefore, the retention times of the surrogates were verified and matched retention times of associated standards. Approximately 10% of the spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the validated samples.

For the validation of compound quantitation, target analytes were non-detect; therefore, selected spiking compounds were recalculated from the raw data, and no calculation errors were noted. No qualification of the data was required.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS and surrogate data were achieved for this SDG.

1.0 FULL VALIDATION OF PESTICIDES DATA – SDG SAS070

This section describes the full validation for two surface water samples which were prepared by USEPA SW-846 Method 3520C and analyzed for organochlorine pesticides by USEPA SW-846 Method 8081A. Samples were analyzed by TestAmerica Laboratories, Inc. of Savanna, Georgia, and submitted as part of sample delivery group (SDG) SAS070. Samples included as part of this validation are listed below:

Sample Identification
SW-SA2-GMCS-4
SW-SA2-GMCS-9

QA/QC criteria were identified in the Groundwater Migration Control System, Sauget Area 2 Superfund Site, Field Sampling Plan, Vol. 3A, Jan. 31, 2003 and USEPA SW-846 Method 8081A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) where applicable to SW-846 Method 8081A.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- Instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control samples (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated pesticide surrogate recoveries were outside evaluation criteria in samples SW-SA2-GMCS-4 and SW-SA2-GMCS-9. Pesticide MS/MSD recoveries and one pesticide MS/MSD RPD were outside evaluation criteria in sample SW-SA2-GMCS-9.

The cooler receipt form indicated three of eight coolers were received by the laboratory at temperatures of 0.2ºC, 0.6ºC , and 1.4ºC which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chains-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The cooler receipt form indicated the cooler temperatures were received at approximately $4^oC \pm 2^oC$. The samples were extracted and analyzed within holding time criteria of 14 days until extraction and 40 days from extraction to analysis. No qualification of data was required due to sample preservation or holding time criteria.

1.4 Instrument Performance

GC-ECD instrument performance checks were performed to ensure proper compound identification and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, passed endrin and 4,4'-DDT breakdown test, and samples analyzed within twelve hours of performance check sample. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8081A. Endrin and 4,4'-DDT breakdown test results were recalculated from the raw data and no calculation or transcription errors were noted. No qualification of data was required.

1.5 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for pesticide analysis. Samples as part of SDG SAS070 were analyzed using instruments SGKECD1 and SGKECD2. The ICAL for instruments SGKECD1 and SGKECD2 were established on 3/19/2013. An initial calibration was analyzed at the beginning of the run sequence. At least six concentration standards were used to establish the initial calibration curve as required by Method 8081A. For the initial calibration, the relative response factors (RRFs) were reviewed and %RSDs were < 20% for all analytes and the correlation coefficient for pesticides determined by second order quadratic regression was greater than 0.99 on each analytical column. An initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were reviewed. Recalculations of the RRFs and %RSD for three compounds per standard were performed, and no transcription or calculation errors were noted. No qualification of data was required.

1.6 Calibration Verification

Review of the sample chromatograms indicate the calibration verifications (CVs) were performed within 12 hours of operation. Review of continuing calibration raw data and summary forms for the primary column indicated compounds met the percent differences (%Ds) or (%drift) evaluation criteria of $\leq$15%. Data for the validated samples were reported from the primary column; no qualification of data was required.

Additionally, selected pesticide calibration RRF and %Ds or %drift were recalculated from the raw data, for both columns, and no transcription or calculation errors were noted. No qualification of data was required.

1.7 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8081A. All blank samples were non-detect. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per-sample basis. Surrogate recoveries were within evaluation criteria for the validated samples with the exceptions summarized in the following table.

Sample ID	Parameter	Surrogate	% Recovery	Surrogate Criteria
SW-SA2-GMCS-4	Pesticides	DCB Decachlorobiphenyl1	**17**	22-130
SW-SA2-GMCS-4	Pesticides	DCB Decachlorobiphenyl2	**17**	22-130
SW-SA2-GMCS-9	Pesticides	Tetrachloro-m-xylene1	**51**	53-130

Analytical data that required qualification based on surrogate data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
SW-SA2-GMCS-4	Pesticides	Pesticide non-detects	**UJ**
SW-SA2-GMCS-9	Pesticides	Pesticide non-detects	**UJ**

Percent recoveries were reviewed, and the summary forms versus the raw data were verified. No errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess accuracy and precision for the analysis; and assess potential matrix affects. Sample SW-SA2-GMCS-9 was spiked and analyzed for pesticides. MS/MSD recoveries were within evaluation criteria with the exceptions summarized in the following table.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD RPD Criteria
SW-SA2-GMCS-9	Pesticides	Endosulfan sulfate	**9**/**8**	16	60-151/50
SW-SA2-GMCS-9	Pesticides	Heptachlor	73/**0**	NC	10-200/50
SW-SA2-GMCS-9	Pesticides	4,4'DDD	81/**9**	**162**	49-144/50

USEPA National Functional Guidelines for Superfund Organic Methods Data indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of data was required.

A minimum of 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.10 Internal Standards

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -/+50% of the ICAL standard. IS areas for the validated samples were within evaluation criteria.

IS retention times were within evaluation criteria for the validated samples. The raw data were verified, and no transcription errors were noted.

1.11 Laboratory Control Samples (LCS)

Laboratory control samples were analyzed with each batch to assess the accuracy of the analytical process. All LCS recoveries were within evaluation criteria; no qualification of data was required.

Approximately 10% of the spiking compound recoveries for the LCS were recalculated using the LCS summary form, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantitation

For the validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified properly and verified against the retention time of the associated standard curve or CV. All target analytes in the validated samples were non-detect; therefore, the retention times of the surrogates were verified and matched retention times of associated standards. Approximately 10% of the spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the validated samples.

For the validation of compound quantitation, target analytes were non-detect; therefore, selected spiking compounds were recalculated from the raw data, and no calculation errors were noted. No qualification of the data was required.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS and surrogate data were achieved for this SDG.

1.0 FULL VALIDATION OF HERBICIDES DATA - SDG SAS070

This section describes the full validation for two surface water samples which were prepared and analyzed for chlorinated herbicides by USEPA SW-846 Method 8151A. Samples were analyzed by TestAmerica Laboratories, Inc. of Savanna, Georgia, and submitted as part of sample delivery group (SDG) SAS070. Samples included as part of this validation are listed below:

Sample Identification
SW-SA2-GMCS-4
SW-SA2-GMCS-9

QA/QC criteria are identified in the Groundwater Migration Control System, Sauget Area 2 Superfund Site, Field Sampling Plan, Vol. 3A, Jan. 31, 2003 and USEPA SW-846 Method 8151A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008), where applicable to USEPA SW-846 Method 8151A.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Sample preservation and holding times
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Laboratory control samples (LCS)
- Target compound identification and quantification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete for the SDG.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated MS/MSD recoveries for pentachlorphenol were outside evaluation criteria in sample SW-SA2-GMCS-9.

The cooler receipt form indicated three of eight coolers were received by the laboratory at temperatures of 0.2ºC, 0.6ºC, and 1.4ºC which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Sample Preservation and Holding Times

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}C$. All samples were extracted within 14 days of collection and analyzed within 40 days of

sample extraction. No qualification of data was required due to sample preservation or holding time criteria.

1.4 Initial Calibration

Initial calibration (ICAL) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for herbicide analysis. Samples as part of SDG SAS070 were analyzed using instrument SGSECD1 and SGSECD2. The ICAL for instruments SGSECD1 and SGSECD2 were established on 4/5/2013 prior to sample analysis and using at least seven concentration standards on two GC columns to establish the initial calibration curve as required by Method 8151A. An initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were reviewed. Also, the %RSDs for herbicides determined by linear least squares regression was less than 20% and the correlation coefficient for herbicides determined by second order quadratic regression was greater than 0.99 on each analytical column. No qualifications were necessary based on the ICAL. Approximately 10% of the calibration curves were recalculated and no transcription or calculation errors were noted.

1.5 Calibration Verification

To confirm the ICAL, and to evaluate instrument performance over specific time periods during sample analysis, calibration verifications (CV) were performed. Daily CVs were performed within the required frequency of every 20 samples or 12-hour analytical shift for herbicide analysis. For the CVs bracketing the validated samples, the percent drift for each herbicide compound was within evaluation criteria (15%) with exceptions summarized in the following table.

CCV (Date/Time/Column)	Analyte	%D
4/6/2013 06:43 Primary Column	Dalapon	**-29.9**
4/6/2013 06:43 Secondary Column	2,4-DB	**-20.7**

Analytical data that required qualification based on CCV data are included in the table below.

Sample ID	Analyte	Qualification
SW-SA2-GMCS-4	Dalapon	**UJ**
SW-SA2-GMCS-4	2,4-DB	**UJ**
SW-SA2-GMCS-9	Dalapon	**UJ**
SW-SA2-GMCS-9	2,4-DB	**UJ**

Additionally, approximately 10% of the herbicide calibration percent differences (%Ds) or percent drifts (%drift) were recalculated from the raw data, for both columns, and no transcription or calculation errors were noted.

1.6 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by Method 8151A. All target compounds in the method blanks were reported as non-detect. Review of chromatograms indicated that other than surrogates, no peaks were positively identified above the method detection limit on either analytical column for herbicides. No data qualifications were required based on blank samples.

1.7 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. Surrogate recoveries were within evaluation criteria for the validated samples; therefore, no qualification of data was required.

Selected surrogate recoveries were recalculated for the validated samples, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Sample SW-SA2-GMCS-9 was spiked and analyzed for herbicides. MS/MSD recoveries were within evaluation criteria with the exceptions of those summarized in the following table.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD RPD Criteria
SW-SA2-GMCS-9	Herbicides	Pentachlorophenol	**68/66**	5	70-130/50

USEPA National Functional Guidelines for Superfund Organic Methods Data indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria for pentachlorophenol; therefore, no qualification of herbicide data was required.

A minimum of 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Laboratory Control Samples (LCS)

A laboratory control sample (LCS) was analyzed with the analytical batch as required by USEPA SW-846 Method 8151A. All LCS recoveries were within evaluation criteria; therefore, no qualification of data was required

Approximately 10% of the LCS recoveries were recalculated, and no calculation or transcription errors were noted.

1.10 Target Compound Identification and Quantification

For the validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified properly and verified against the retention time of the associated standard curve or CV. All target analytes in the validated samples were non-detect; therefore, the retention times of the surrogates were verified and matched retention times of associated standards. Approximately 10% of the spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the validated samples.

For the validation of compound quantitation, target analytes were non-detect; therefore, selected spiking compounds were recalculated from the raw data, and no calculation errors were noted. No qualification of the data was required.

1.11 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS and surrogate data were achieved for this SDG.

1.0 FULL VALIDATION OF METALS DATA – SDG SAS070

This section describes the full data validation for two surface water samples which were prepared by USEPA SW-846 Methods 3005A and 7470, and analyzed for total and dissolved metals by USEPA SW-846 Method 6010B and total and dissolved mercury by USEPA SW-846 7471A, respectively. Samples were analyzed by TestAmerica Laboratories, Inc. of Savanna, Georgia, and submitted as part of sample delivery group (SDG) SAS070. Samples included as part of this validation are listed below:

Sample Identification
SW-SA2-GMCS-4
SW-SA2-GMCS-9

QA/QC criteria were identified in the Groundwater Migration Control System, Sauget Area 2 Superfund Site, Field Sampling Plan, Vol. 3A, Jan. 31, 2003 and USEPA SW-846 Methods 6010B and 7471A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Superfund Inorganic Data Review (USEPA 2010) where applicable to SW-846 Methods 6010B and 7471A.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative /cooler receipt form
- Sample preservation and holding times
- Blank contamination
- Initial calibration
- Calibration verification
- Laboratory control spike (LCS)
- Matrix spike/matrix spike duplicate (MS/MSD)
- Laboratory duplicate sample
- ICP serial dilution
- ICP interference check samples (ICS)
- Sample result verification
- Overall assessment of data

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete for this SDG.

1.2 Laboratory Case Narrative / Cooler Receipt Form

The laboratory case narrative indicated total iron was detected in the method blank. Total silver, total iron, and dissolved silver MS/MSD recoveries were outside evaluation criteria in sample SW-SA2-GMCS-9. These issues are addressed further in the appropriate sections below. The cooler receipt form indicated three of eight coolers were received by the laboratory at temperatures of 0.2ºC, 0.6ºC, and 1.4ºC which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Sample Preservation and Holding Times

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the sample preparation logs, the analysis run logs, and raw data forms for holding time compliance. The samples were received by the laboratory at approximately 4°C $\pm$ 2 °C, and analyzed within the evaluation criteria of 6 months for metals and within 28 days for mercury. No qualification of data was required based on holding time criteria or sample preservation.

1.4 Blank Contamination

The purpose of blank samples was to evaluate the existence and magnitude of contamination problems emanating from laboratory or field activities. Analytes detected in blanks are summarized in the table below.

Blank ID	Parameter	Analyte	Concentration	Units
MB 680-271843/1-A	Total metals	Total iron	0.0436	mg/L

Analytical data was reported at concentrations greater than five times (5X) the associated blank concentration and did not require qualification. No qualification of data was required.

1.5 Initial Calibration

Initial calibration (ICAL) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for metals analyses. An ICAL was analyzed at the beginning of the run sequence. ICAL curves were established using a blank and three standards for analysis of metals by inductively coupled plasma atomic emission (ICP-AE). ICAL curves were established using a blank and six standards for the analysis of mercury by cold vapor atomic absorption (CVAA). All initial calibration verification (ICV) recoveries were within evaluation criteria (ICP total and dissolved metals, 90-110%; total and dissolved mercury, 80-120%). A minimum of 10% of the ICAL curve and ICV recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of the data was required based on ICV data.

1.6 Calibration Verification

Calibration verification (CV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data established by the ICAL. The laboratory analyzed CV samples at a frequency of 10% as specified by the methodologies. CV samples associated with the validated samples had recoveries within the evaluation criteria (ICP total and dissolved metals, 90-110%; total and dissolved mercury, 80-120%). A minimum of 10% of the CV sample recoveries were recalculated and compared to the raw data and no calculation or transcription errors were noted.

1.7 Laboratory Control Spike (LCS)

Laboratory control spike (LCS) samples were analyzed to assess the accuracy of the analytical method and to demonstrate laboratory performance. The LCS recoveries for metals and mercury were within evaluation criteria (75-125%) for metals and (80-120%) for mercury. A minimum of 10% of the LCS recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on LCS recoveries.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples are analyzed to assess potential matrix effects. Sample SW-SA2-GMCS-9 was spiked and analyzed for total ICP metals and total mercury. MS/MSD recoveries were within evaluation criteria with the exceptions summarized in the table below:

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD RPD Criteria
SW-SA2-GMCS-9	Total metals	Silver	**35/20**	**55**	75-125/20
SW-SA2-GMCS-9	Total metals	Iron	77**/72**	4	75-125/20
SW-SA2-GMCS-9	Dissolved metals	Silver	**61/**85	**33**	75-125/20

Analytical data that required qualification based on MS/MSD data are included in the following table. The MS/MSD recoveries for inorganic analytes with sample concentrations greater than (4X) the matrix spike concentration did not require evaluation or qualification. MS/MSD recoveries for total and dissolved calcium and total and dissolved sodium in sample SW-SA2-GMCS-5 could not be evaluated because the sample concentrations were greater than four times (4X) the matrix spike concentration.

Sample ID	Parameter	Analyte	Qualification
SW-SA2-GMCS-9	Total metals	Silver	**J**
SW-SA2-GMCS-9	Total metals	Iron	**J**
SW-SA2-GMCS-9	Dissolved metals	Silver	**J**

Approximately 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Laboratory Duplicate Sample

Laboratory duplicate samples were analyzed to assess the precision of a particular sample. The laboratory did not duplicate and analyze samples for metals and mercury as part of this SDG.

1.10 ICP Serial Dilution

Serial dilutions were analyzed to assess the potential significant physical or chemical interferences due to sample matrix. A serial dilution was completed for sample SW-SA2-GMCS-9.

Serial dilution performed on metals sample SW-SA2-GMCS-9 was outside evaluation criteria for calcium, magnesium, and sodium. The post digestion spike recovery for calcium, magnesium, and sodium was outside evaluation criteria. Data requiring qualification due to post digestion spike recoveries are included in the following table.

Sample ID	Parameter	Analyte	Qualification
SW-SA2-GMCS-9	Total metals	Calcium	**J**
SW-SA2-GMCS-9	Total metals	Magnesium	**J**
SW-SA2-GMCS-9	Total metals	Sodium	**J**

1.11 ICP Interference Check Sample

An Interference Check Sample (ICS) was analyzed to verify the contract laboratory's interelement and background correction factors for analysis of metals by ICP. The laboratory analyzed the ICS at the beginning of the analytical run as specified in USEPA SW-846 Method 6010B. The ICS recoveries for all metals analyzed were within evaluation criteria (80-120%); therefore, no qualification of the ICP data was required. A minimum of 10% of the ICS recoveries were recalculated and compared to the raw data; no transcription and calculation errors were noted.

1.12 Sample Result Verification

The metals results were reviewed to confirm that analyte quantitation was derived accurately and no calculation errors were noted. Data summary forms were reviewed and compared to the raw data package. No transcription errors were noted and the correct reporting limits were used.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD and LCS data were achieved for this SDG.

URS

Analytical Results Tables

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-2								
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Bromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Chloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Sulfur dioxide	3500	ug/L	T J N	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-2	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4-Dichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4-Dimethylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4-Dinitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Chloronaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Chlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Methylnaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.6	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	2-Nitrophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	3 & 4 Methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	58	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	3-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	4-Nitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Acenaphthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Acenaphthylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzo(a)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzo(a)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.6	ug/L	U	

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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Carbazole	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Chrysene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Dibenzofuran	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Diethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Dimethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Di-n-butylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Di-n-octylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Dinoseb	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Fluorene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Hexachlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Hexachlorobutadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Hexachloroethane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Isophorone	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Naphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Nitrobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Phenanthrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Phenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	P-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	SVOCs	Unknown Aldol Condensate	22	ug/L	T A J	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	4,4'-DDD	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	4,4'-DDE	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	4,4'-DDT	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Aldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	alpha-BHC	0.048	ug/L	U	UJ

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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	alpha-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	beta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	delta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Dieldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endosulfan I	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endosulfan II	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endosulfan Sulfate	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endrin Aldehyde	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Endrin Ketone	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	gamma-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Heptachlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Heptachlor Epoxide	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Methoxychlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Pesticides	Toxaphene	4.8	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	Dalapon	9.7	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	MCPP	120	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Aluminum	0.48	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Aluminum (Dissolved)	0.41	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Barium	0.074	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Barium (Dissolved)	0.057	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Beryllium	0.00023	mg/L	J	

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Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Calcium (Dissolved)	46	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Cobalt	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Iron	1.1	mg/L	B	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Iron (Dissolved)	0.43	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Lead	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Manganese	0.14	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Manganese (Dissolved)	0.021	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Nickel	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Potassium	4.6	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Potassium (Dissolved)	4.2	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Silver	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Sodium (Dissolved)	33	mg/L		
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Vanadium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Zinc	0.012	mg/L	J	
Surface Water	SW-SA2-GMCS-2	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-3								
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Bromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Chloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Sulfur dioxide	1600	ug/L	T J N	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-3	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4-Dichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4-Dimethylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4-Dinitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Chloronaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Chlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Methylnaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.6	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	2-Nitrophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	3 & 4 Methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	58	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	3-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	4-Nitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Acenaphthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Acenaphthylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzo(a)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzo(a)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.6	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Carbazole	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Chrysene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Dibenzofuran	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Diethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Dimethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Di-n-butylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Di-n-octylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Dinoseb	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Fluorene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Hexachlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Hexachlorobutadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Hexachloroethane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Isophorone	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Naphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Nitrobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Phenanthrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Phenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	P-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	SVOCs	Unknown	4	ug/L	T J	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	4,4'-DDD	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	4,4'-DDE	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	4,4'-DDT	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Aldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	alpha-BHC	0.048	ug/L	U	UJ

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	alpha-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	beta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	delta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Dieldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endosulfan I	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endosulfan II	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endosulfan Sulfate	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endrin Aldehyde	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Endrin Ketone	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	gamma-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Heptachlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Heptachlor Epoxide	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Methoxychlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Pesticides	Toxaphene	4.8	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	Dalapon	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	MCPP	120	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Aluminum	0.45	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Aluminum (Dissolved)	0.37	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Barium	0.071	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Barium (Dissolved)	0.057	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Beryllium	0.004	mg/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Calcium	49	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Calcium (Dissolved)	46	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Cobalt	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Iron	0.88	mg/L	B	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Iron (Dissolved)	0.36	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Lead	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Magnesium	18	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Manganese	0.13	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Manganese (Dissolved)	0.016	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Nickel	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Potassium (Dissolved)	4.3	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Silver	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Sodium	34	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Sodium (Dissolved)	34	mg/L		
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Vanadium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Zinc	0.011	mg/L	J	
Surface Water	SW-SA2-GMCS-3	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-4								
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Bromomethane	1	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Chloroethane	1	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Sulfur dioxide	2500	ug/L	T J N	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-4	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4-Dichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4-Dimethylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4-Dinitrophenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Chloronaphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Chlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Methylnaphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.5	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	2-Nitrophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	3 & 4 Methylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	57	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	3-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	4-Nitrophenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Acenaphthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Acenaphthylene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzo(a)anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzo(a)pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.5	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Carbazole	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Chrysene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Dibenzofuran	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Diethyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Dimethyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Di-n-butylphthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Di-n-octylphthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Dinoseb	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Fluoranthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Fluorene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Hexachlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Hexachlorobutadiene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Hexachloroethane	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Isophorone	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Naphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Nitrobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Phenanthrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Phenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	P-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	SVOCs	Unknown Aldol Condensate	4.1	ug/L	T A J	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	4,4'-DDD	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	4,4'-DDE	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	4,4'-DDT	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Aldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	alpha-BHC	0.048	ug/L	U	UJ

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	alpha-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	beta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	delta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Dieldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endosulfan I	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endosulfan II	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endosulfan Sulfate	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endrin Aldehyde	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Endrin Ketone	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	gamma-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Heptachlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Heptachlor Epoxide	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Methoxychlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Pesticides	Toxaphene	4.8	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	Dalapon	9.6	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	MCPP	120	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Aluminum	0.43	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Aluminum (Dissolved)	0.27	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Barium	0.072	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Barium (Dissolved)	0.06	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Beryllium	0.004	mg/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Calcium	49	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Calcium (Dissolved)	49	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Cobalt	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Iron	0.88	mg/L	B	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Iron (Dissolved)	0.27	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Lead	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Manganese	0.14	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Manganese (Dissolved)	0.013	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Nickel	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Potassium	4.5	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Silver	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Vanadium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Zinc	0.011	mg/L	J	
Surface Water	SW-SA2-GMCS-4	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-5								
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Bromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Chloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Sulfur dioxide	2300	ug/L	T J N	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4-Dichlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4-Dimethylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4-Dinitrophenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Chloronaphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Chlorophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Methylnaphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.5	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	2-Nitrophenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	3 & 4 Methylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	57	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	3-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	4-Nitrophenol	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Acenaphthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Acenaphthylene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzo(a)anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzo(a)pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.5	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Carbazole	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Chrysene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Dibenzofuran	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Diethyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Dimethyl Phthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Di-n-butylphthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Di-n-octylphthalate	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Dinoseb	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Fluoranthene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Fluorene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Hexachlorobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Hexachlorobutadiene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Hexachloroethane	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Isophorone	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Naphthalene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Nitrobenzene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Phenanthrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Phenol	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	P-Nitroaniline	47	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Pyrene	9.5	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	SVOCs	Unknown Aldol Condensate	30	ug/L	T A J	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	4,4'-DDD	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	4,4'-DDE	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	4,4'-DDT	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Aldrin	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	alpha-BHC	0.048	ug/L	U	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	alpha-Chlordane	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	beta-BHC	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	delta-BHC	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Dieldrin	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endosulfan I	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endosulfan II	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endosulfan Sulfate	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endrin	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endrin Aldehyde	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Endrin Ketone	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	gamma-Chlordane	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Heptachlor	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Heptachlor Epoxide	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Methoxychlor	0.048	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Pesticides	Toxaphene	4.8	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	Dalapon	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	110	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	MCPP	110	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Aluminum	0.46	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Aluminum (Dissolved)	0.24	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Barium	0.073	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Barium (Dissolved)	0.059	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Beryllium	0.004	mg/L	U	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Calcium (Dissolved)	49	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Cobalt	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Iron	0.99	mg/L	B	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Iron (Dissolved)	0.24	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Lead	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Manganese	0.15	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Manganese (Dissolved)	0.011	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Nickel	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Silver	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Sodium	36	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Vanadium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Zinc	0.011	mg/L	J	
Surface Water	SW-SA2-GMCS-5	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Bromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Chloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Sulfur dioxide	980	ug/L	T J N	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4-Dichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4-Dimethylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4-Dinitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Chloronaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Chlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Methylnaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.6	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	2-Nitrophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	3 & 4 Methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	57	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	3-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	4-Nitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Acenaphthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Acenaphthylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzo(a)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzo(a)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.6	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Carbazole	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Chrysene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Dibenzofuran	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Diethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Dimethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Di-n-butylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Di-n-octylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Dinoseb	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Fluorene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Hexachlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Hexachlorobutadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Hexachloroethane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Isophorone	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Naphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Nitrobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Phenanthrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Phenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	P-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	SVOCs	Unknown Aldol Condensate	5.2	ug/L	T A J	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	4,4'-DDD	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	4,4'-DDE	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	4,4'-DDT	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Aldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	alpha-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	alpha-Chlordane	0.048	ug/L	U	UJ

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	beta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	delta-BHC	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Dieldrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endosulfan I	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endosulfan II	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endosulfan Sulfate	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endrin	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endrin Aldehyde	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Endrin Ketone	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	gamma-Chlordane	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Heptachlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Heptachlor Epoxide	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Methoxychlor	0.048	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Pesticides	Toxaphene	4.8	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	Dalapon	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	MCPP	120	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Aluminum	0.46	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Aluminum (Dissolved)	0.36	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Barium	0.073	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Barium (Dissolved)	0.06	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Beryllium	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Calcium	50	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Calcium (Dissolved)	48	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Cobalt	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Iron	0.94	mg/L	B	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Iron (Dissolved)	0.39	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Lead	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Magnesium	19	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Magnesium (Dissolved)	19	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Manganese	0.15	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Manganese (Dissolved)	0.018	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Nickel	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Potassium	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Potassium (Dissolved)	4.5	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Silver	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Sodium	35	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Sodium (Dissolved)	36	mg/L		
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Vanadium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Zinc	0.0093	mg/L	J	
Surface Water	SW-SA2-GMCS-5-DUP	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

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Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
PDA-9								
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,1,1-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,1,2,2-Tetrachloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,1,2-Trichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,1-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,1-Dichloroethylene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,2-Dichloroethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,2-Dichloroethene (total)	2	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	1,2-Dichloropropane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	2-Butanone (MEK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	4-Methyl-2-pentanone (MIBK)	10	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Acetone	25	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Benzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Bromodichloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Bromoform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Bromomethane	1	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Carbon Disulfide	2	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Carbon Tetrachloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Chlorobenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Chlorodibromomethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Chloroethane	1	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Chloroform	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Chloromethane	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	cis-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	cis-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Dichloromethane	5	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Ethylbenzene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Methyl N-Butyl Ketone	10	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Styrene (Monomer)	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Tentatively Identified Compound		ug/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Tetrachloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Toluene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	trans-1,2-Dichloroethene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	trans-1,3-Dichloropropene	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Trichloroethene	1	ug/L	U	

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
March 2013

Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Vinyl chloride	1	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	VOCs	Xylenes, Total	2	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	1,2,4-Trichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	1,2-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	1,3-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	1,4-Dichlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4,5-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4,6-Trichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4-Dichlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4-Dimethylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4-Dinitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,4-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2,6-Dinitrotoluene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Chloronaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Chlorophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Methylnaphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Methylphenol (o-Cresol)	9.6	ug/L	U *	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	2-Nitrophenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	3 & 4 Methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	3,3'-Dichlorobenzidine	58	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	3-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	4,6-Dinitro-2-methylphenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	4-Bromophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	4-Chloro-3-methylphenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	4-Chlorophenyl Phenyl Ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	4-Nitrophenol	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Acenaphthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Acenaphthylene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzo(a)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzo(a)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzo(b)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzo(g,h,i)perylene	9.6	ug/L	U	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzo(k)fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Benzyl Butyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	bis(2-Chloroethoxy)methane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	bis(2-Chloroethyl)ether	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	bis(2-Ethylhexyl)phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Carbazole	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Chrysene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Dibenzo(a,h)anthracene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Dibenzofuran	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Diethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Dimethyl Phthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Di-n-butylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Di-n-octylphthalate	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Dinoseb	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Fluoranthene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Fluorene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Hexachlorobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Hexachlorobutadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Hexachlorocyclopentadiene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Hexachloroethane	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Indeno(1,2,3-cd)pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Isophorone	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Naphthalene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Nitrobenzene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	N-Nitroso-di-n-propylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	N-Nitrosodiphenylamine	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	P-Chloroaniline	19	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Phenanthrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Phenol	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	P-Nitroaniline	48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Pyrene	9.6	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	SVOCs	Unknown Aldol Condensate	4.4	ug/L	T A J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	4,4'-DDD	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	4,4'-DDE	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	4,4'-DDT	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Aldrin	0.049	ug/L	U	UJ

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Sauget Area 2
Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	alpha-BHC	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	alpha-Chlordane	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	beta-BHC	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	delta-BHC	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Dieldrin	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endosulfan I	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endosulfan II	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endosulfan Sulfate	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endrin	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endrin Aldehyde	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Endrin Ketone	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	gamma-BHC (Lindane)	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	gamma-Chlordane	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Heptachlor	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Heptachlor Epoxide	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Methoxychlor	0.049	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Pesticides	Toxaphene	4.9	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	2,4,5-T	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	2,4,5-TP (Silvex)	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	2,4-D	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	2,4-DB	0.48	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	Dalapon	9.6	ug/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	Dicamba	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	Dichlorprop	0.48	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	110	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	MCPP	110	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Herbicides	Pentachlorophenol	0.24	ug/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Aluminum	0.77	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Aluminum (Dissolved)	0.26	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Antimony	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Antimony (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Arsenic	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Arsenic (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Barium	0.082	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Barium (Dissolved)	0.059	mg/L		

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Beryllium	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Beryllium (Dissolved)	0.004	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Cadmium	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Cadmium (Dissolved)	0.005	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Calcium	48	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Calcium (Dissolved)	47	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Chromium	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Chromium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Cobalt	0.0017	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Cobalt (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Copper	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Copper (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Iron	2.3	mg/L	B	J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Iron (Dissolved)	0.26	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Lead	0.0043	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Lead (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Magnesium	18	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Magnesium (Dissolved)	18	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Manganese	0.16	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Manganese (Dissolved)	0.011	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Mercury	0.0002	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Nickel	0.004	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Nickel (Dissolved)	0.04	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Potassium	4.4	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Potassium (Dissolved)	4.4	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Selenium	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Selenium (Dissolved)	0.02	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Silver	0.01	mg/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Silver (Dissolved)	0.01	mg/L	U	UJ
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Sodium	32	mg/L		J
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Sodium (Dissolved)	32	mg/L		
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Thallium	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Thallium (Dissolved)	0.025	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Vanadium	0.003	mg/L	J	

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Groundwater Migration Control System
Surface Water Sample Analytical Results
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Media	Sample ID	Sample Date	Group	Chemical	Result	Units	Lab Qualifiers	URS Qualifiers
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Vanadium (Dissolved)	0.01	mg/L	U	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Zinc	0.013	mg/L	J	
Surface Water	SW-SA2-GMCS-9	3/28/2013	Metals	Zinc (Dissolved)	0.02	mg/L	U	

Notes:

Lab Qualifier	Definition
A	The tentatively identified compound is a suspected aldol-condensation product
B	Compound was found in the blank and sample
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
N	Flag indicates the presumptive evidence of a compound
T	Result is a tentatively identified compound (TIC) and an estimated value
U	Indicates the analyte was analyzed for but not detected

URS Qualifier	Definition
J	Analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U	Indicates the analyte was analyzed for but not detected